REMARKS

Claims 1-25 are currently pending in this application. Claims 10 and 23-25, each of which being in independent form and having been amended herein, are in active prosecution.

While Claims 1-9 and 11-22 had been withdrawn from active prosecution, Applicants have introduced certain amendments to each of the independent claims (including those that had been withdrawn) and certain dependent claims (including those that had been withdrawn) to capture that the invention is directed to anaerobically curable compositions that cure at room temperature when air is excluded from the environment in which cure is to occur and that the anaerobic cure inducing composition, which induces cure to occur at room temperature under anaerobic conditions, comprises peroxide and saccharin. As such, Applicants request that those claims that were previously withdrawn be re-considered herein.

Applicants turn now to the merits of the Office Actions mailed September 12 and October 17, 2006.

35 U.S.C. § 112, ¶2, Rejection:

Claims 10 and 23-25 had been rejected under 35 U.S.C. § 112, second paragraph, as allegedly being indefinite, in particular with regard to the use of the phrase "anaerobic cure-

inducing composition". Applicants traverse this Section 112 rejection.

A search of the U.S. Patent and Trademark Office website as of October 4, 2006 shows at least 8 U.S. patents (i.e., U.S. Patent Nos. 6,043,327; 6,150,479; 6,342,545; 6,451,948; 6,583,289; and 6,723,763) that use that phrase in at least one of their claims and at least 2 additional U.S. patents (i.e., U.S. Patent Nos. 6,391,993 and 6,460,464) use the phrase "anaerobic cure-inducing component" in at least one of their claims.

Thus, on at least 10 separate occasions the U.S. Patent and Trademark Office has been of the opinion that the objected to phrase is indeed definite. And Applicants refer in the specification to components that make up the objected to phrase. (Specification, ¶¶ [0056]-[0059].)

While Applicants respect the Examiner's position regarding the permissibility of commenting on the "validity/sufficiency of disclosure of other patents" (Office Action mailed October 17, 2006, continuation of box 11), Applicants' citation to such patents is not for the purpose of having the Examiner comment on whether those patents are not invalid, but rather to bring to his attention the fact that a

plethora of patents have been issued that use the term that has been objected to.

Moreover, Applicants' additional amendments require that the anaerobic cure inducing composition comprise peroxide and saccharin.

Therefore, Applicants submit that no Section 112 rejection should be lodged against the pending claims.

35 U.S.C. §§ 102 and 103 Rejections:

Ikeguchi

U.S. Patent No. 4,373,086 (Ikeguchi) had been cited against Claims 10 and 23-25 under 35 U.S.C. § 102(b) as allegedly anticipating, or in the alternative under 35 U.S.C. § 103(a) as allegedly rendering obvious, those claims. Applicants disagree.

As a review for the Examiner, the invention provides various anaerobically curable compositions. For instance, the compositions, which cure when exposed to anaerobic conditions, include:

(a) a cyanate ester compound having the structure of formula I:

$$R^1\left(O—C\equiv N\right)_m \qquad \textbf{(I)}$$

where m is from 2 to 5 and R^1 is an aromatic nucleus-containing residue; and

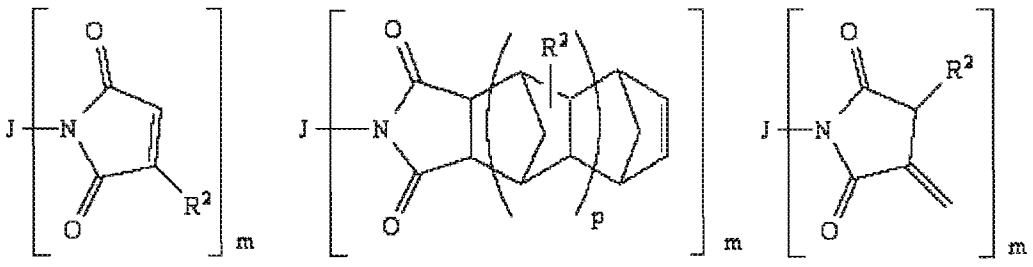
(b) an anaerobic cure inducing composition comprising peroxide and saccharin.

The compositions are free of added metallic catalysts.

The compositions are to be used to bond substrates, at least one of which has a metallic surface, and cure at room temperature when placed between two surfaces such that an anaerobic environment is created in the area between the two surfaces.

The compositions may additional include a (meth)acrylate monomer and one or more maleimides, nadimides or itaconimides. The maleimides, nadimides or itaconimides may be selected from the following structures:

(V) (VI) (VII)



where m is 1-15, p is 0-15, R^2 is independently selected from hydrogen or lower alkyl, and J is independently selected from a monovalent or a polyvalent moiety comprising organic or organosiloxane radicals, and combinations thereof.

The methods of the present invention provide ways in which such anaerobically curable compositions may be cured at room temperature under anaerobic conditions where a metallic surface is present.

In the Office Action mailed September 12, 2006, the Examiner indicated that Applicants' Amendment dated July 10, 2006 had been considered but the position advocated therein as not convincing. More specifically, the Examiner stated at page 4 of that Action:

> Applicant is merely claiming a composition or a method of making the composition by combining the ingredients. Applicant does not require any particular cure be actually performed. Applicant is not claiming a method of curing at room temperature. Only the inherent ability to room temperature cure on a metal substrate is required. An anticipatory reference need not recognize this ability (citation omitted).

The Examiner's determination in this quoted paragraph was incorrect.

First, the Examiner's position in the first two sentences of the quoted passage ignored the body of technology that has been developed in the field of anaerobic adhesive compositions. (See e.g. Specification, ¶¶ [0003]-[0004].) Many U.S. patents are directed to and claim anaerobically curable

compositions, without claiming the cured reaction product or the method by which the composition cures. For instance, see U.S. Patent Nos. 6,043,327; 6,150,479; 6,342,545; 6,451,948; 6,583,289; and 6,723,763.

Second, the Examiner's position about inherency was misplaced, as discussed in more detail below.

Third, the Examiner's position about anticipation was likewise misplaced.

As it related to Ikeguchi, the Examiner contended that "Ikeguchi suggests curable compositions of polyfunctional cyanate esters, a polyfunctional acrylate and a polyfunctional maleimide." (Office Action mailed September 12, 2006, at page 2.) The Examiner further contended that the compositions of Ikeguchi "inherently must have room temperature curability if placed between metal surfaces, because his composition corresponds to that claimed by applicant." (Id.)

The Examiner's contentions in this regard however cannot stand, particularly in view of Applicants' introduction to the claim of an anaerobic cure-inducing composition comprising peroxide and saccharin, without which anaerobic cure would not occur as the Examiner had concluded.

Applicants' amendments specify with more particularity the mechanism by which the inventive compositions cure -- that

is, by way of an anaerobic mechanism. Anaerobic adhesives -- that is, compositions curable under anaerobic conditions and which perform as adhesives -- are well known, and their cure mechanism involves several components including peroxide and saccharin.

Ikeguchi fails to disclose, teach or suggest the inclusion of an anaerobic cure-inducing composition comprising peroxide and saccharin, such as that defined by the claims as amended herein, as well as anaerobically curable compositions that cure at room temperature when placed between surfaces such that an anaerobic environment is created in the area between the two surfaces, at least one of which is metallic. In contrast, the compositions of Ikeguchi require at least heat for curing. In fact, at Col. 8, lines 28-30, a temperature of 100°-250°C is noted as that heat curing temperature. All of the examples of Ikeguchi employ heat and a metal catalyst for curing. Example 1 uses heat (at temperatures of 160°C and 175°C) and a zinc octoate catalyst to cure the composition. (Col. 8; lines 57-67.) Example 2 uses the same process for curing as Example 1. (Col. 9; lines 14-15.) Example 3 similarly uses heat (at temperatures of 170°C and 195°C) and a zinc octoate catalyst to cure. (Col. 9; lines 36-55.)

Nowhere in Ikeguchi are anaerobically curing compositions, which cure at room temperature when placed between two surfaces, at least one of which is metallic, disclosed, taught or even suggested. Moreover and significantly, nowhere in Ikeguchi are anaerobic cure-inducing compositions comprising peroxide and saccharin disclosed, taught or even suggested.

It is well settled that to be an effective anticipatory reference, a cited document must disclose each and every limitation recited in a claim under examination. Failing such precise disclosure, such a cited document must fail as an anticipatory reference.

Nevertheless, the Examiner contended that Ikeguchi "inherently" discloses the compositions defined by Applicants' invention. The standard for inherency requires that the missing element must necessarily be present. "Inherency, however, may not be established by probabilities or possibilities. The mere fact that a certain thing may result from a given set of circumstances is not sufficient." Continental Can Co. USA, Inc. v. Monsanto Co., 948 F.2d 1264, 1268-69 (Fed. Cir. 1991) (citations omitted).

Here, Ikeguchi is utterly silent as to anaerobically curable compositions, the inclusion of an anaerobic cure inducing composition comprising peroxide and saccharin to induce

cure by such an anaerobic mechanism, and the environment under which such cure can occur.

Therefore, Ikeguchi cannot anticipate Applicants' amended claims, even under a theory of inherency.

Moreover, there is no suggestion in Ikeguchi that its compositions cure anaerobically at room temperature when placed between two surfaces such that an anaerobic environment is created in the area between the two surfaces, at least one of which is metallic, or for Ikeguchi's compositions to include an anaerobic cure-inducing composition comprising peroxide and saccharin to induce cure by such a mechanism, or the environment under which such cure can occur. Instead, Ikeguchi specifically states that its compositions require at least heat for curing. Elimination of the heat curing requirement would result in an improper modification of Ikeguchi. See MPEP § 2143.01 ("If the proposed modification or combination of the prior art would change the principle of operation of the prior art invention being modified, then the teachings of the references are not sufficient to render the claims *prima facie* obvious.").

Any such modification of Ikeguchi would destroy that document for what it fairly teaches. And, moreover, that modification must have come through the use of hindsight reasoning, using Applicants' claims as a template from which to

pick and choose which portions of Ikeguchi seemingly are relevant but require modification. As such, Ikeguchi also fails to suggest Applicants' amended claims and thus does not render obvious the claimed invention.

Applicants submit that Ikeguchi cannot support a rejection of Claims 10 and 23-25 under Section 102 or Section 103.

Gaku

U.S. Patent No. 4,369,304 (Gaku) had been cited against Claims 10 and 23-25 under 35 U.S.C. § 102(b) as allegedly anticipating, or in the alternative under 35 U.S.C. § 103(a) as allegedly rendering obvious, those claims. Applicants disagree.

Here, the Examiner again contended that "Gaku suggests curable compositions of polyfunctional cyanate esters, an acrylate and a polyfunctional maleimide." (Office Action mailed September 12, 2006, at page 2.) The Examiner further contended that the compositions of Gaku "inherently must have room temperature curability if placed between metal surfaces, because his composition corresponds to that claimed by applicant." (Id.)

The Examiner's contentions however cannot stand in view of Applicants' introduction to the claims of an anaerobic

cure-inducing composition comprising peroxide and saccharin, without which anaerobic cure would not occur as the Examiner had concluded.

Applicants' amendments specify with more particularity the mechanism by which the inventive compositions cure -- that is, by way of an anaerobic mechanism. Anaerobic adhesives -- that is, compositions curable under anaerobic conditions and perform as adhesives -- are well known, and their cure mechanism involves several components including peroxide and saccharin.

Gaku does not disclose, teach or suggest the inclusion of an anaerobic cure-inducing composition comprising peroxide and saccharin, as well as anaerobically curable compositions, which cure at room temperature when placed between two surfaces at least one of which is metallic, disclosed or suggested. Moreover and significantly, nowhere in Gaku are anaerobic cure-inducing compositions or the components thereof disclosed, taught or suggested.

In the Office Action mailed April 10, 2006, the Examiner acknowledged that the compositions of Gaku require heating of the composition to effect curing. Similar to the disclosure of Ikeguchi, indeed all of the examples of Gaku employ heat and a metal catalyst for cure. Example 1 uses heat (at temperatures of 150°C) and a zinc octoate catalyst to cure

the composition. (Col. 6; lines 12-22.) Example 2 also uses heat (at temperatures of 60°C and 140°C) and a zinc octoate catalyst to cure the composition. (Col. 6; lines 56-62.) Example 3 similarly uses heat and a zinc octoate catalyst to cure. (Col. 7; lines 5-10.) Nowhere in Gaku are anaerobically curing compositions, which cure at room temperature when placed between two surfaces at least one of which is metallic, disclosed, taught or suggested. Moreover, nowhere in Gaku is the inclusion of an anaerobic cure-inducing composition comprising peroxide and saccharin disclosed, taught or suggested.

As noted above, a cited document must disclose each and every limitation recited in a claim under examination to be an effective anticipatory reference. Failing such precise disclosure, such a cited document must fail as an anticipatory reference.

Nonetheless, the Examiner contended that Gaku "inherently" discloses the compositions defined by Applicants' invention. However, as noted above, the standard for inherency requires that the missing element must necessarily be present, not that it is probably or possibly present.

Gaku like Ikeguchi is utterly silent as to anaerobically curable compositions, the inclusion of an

anaerobic cure inducing composition comprising peroxide and saccharin to induce cure by such a mechanism, and the environment under which such cure can occur.

Therefore, Gaku cannot anticipate Applicants' amended claims, even under a theory of inherency.

Moreover, there is no suggestion in Gaku that its compositions cure anaerobically at room temperature when placed between two surfaces such that an anaerobic environment is created in the area between the two surfaces, at least one of which is metallic. Gaku specifically states that its compositions require at least heat for curing. Elimination of the heat curing requirement would result in an improper modification of Gaku and destroy it for what it fairly teaches. See MPEP § 2143.01.

Any such modification of Gaku must have come through the use of hindsight reasoning, using Applicants' claims as a template from which to pick and choose which portions of Gaku seemingly are relevant but require modification. As such, Gaku also fails to suggest Applicants' amended claims.

Applicants submit that Gaku cannot support a rejection of Claims 10 and 23-25 under Section 102 or Section 103.

Ayano

U.S. Patent No. 4,383,903 (Ayano) had been cited against Claims 10 and 23-25 under 35 U.S.C. § 102(b) as allegedly anticipating, or in the alternative under 35 U.S.C. § 103(a) as allegedly rendering obvious, those claims. Applicants disagree.

Ayano is directed to and claims a photocurable resin composition defined by at least one cyanate ester compound; at least one of a certain monomer having one to six olefinic double bonds, a homoprepolymer of one or such monomers, and a liquid thereof having one to six acryloyl or methacryloyl groups; at least one of a polyfunctional maleimide, a homoprepolymer thereof, and a coprepolymer thereof and an amine; a photopolymerization initiator or a photosensitizer present; and a heat curable catalyst of a curing agent.

Here, it is evident that Ayano speaks to a dual cure composition, with the two cure mechanism being photocure and heat cure. Anaerobic cure is nowhere mentioned therein, let alone the desirability of which suggested. Thus, it is not surprising that an anaerobic cure-inducing composition comprising peroxide and saccharin is absent from Ayano.

Therefore, Ayano cannot anticipate Applicants' amended claims.

Moreover, there is no suggestion in Ayano that its compositions cure anaerobically at room temperature when placed between two surfaces such that an anaerobic environment is created in the area between the two surfaces, at least one of which is metallic. Ayano specifically states that its compositions require heat and light for curing. Elimination of the heat and/or light curing requirement would result in an improper modification of Ayano and destroy it for what it fairly teaches. See MPEP § 2143.01.

Any such modification of Ayano must have come through the use of hindsight reasoning, using Applicants' claims as a template from which to pick and choose which portions of Ayano seemingly are relevant but require modification. As such, Ayano also fails to suggest Applicants' amended claims.

Applicants submit that Ayano cannot support a rejection of Claims 10 and 23-25 under Section 102 or Section 103.

Sugio

U.S. Patent No. 4,503,186 (Sugio) had been cited against Claims 10 and 23-25 under 35 U.S.C. § 102(b) as allegedly anticipating, or in the alternative under 35 U.S.C. § 103(a) as allegedly rendering obvious, those claims. Applicants disagree.

As undersood, Sugio seems to be directed to and claims a curable resin composition of a polyphenylene ether resin; at least one of a polyfunctional cyanate ester monomer, a prepolymer thereof, a coprepolymer thereof and an amine, a coprepolymer thereof and a polyfunctional maleimide, and mixtures thereof; at least one of the maleimide, a prepolymer of the maleimide, and a coprepolymer of the maleimide and an amine; and at least one of compounds having one or more acryloyl, methacryloyl, acryloxy or methacryloxy groups.

In addition, Sugio indicates that mixtures of these components, preliminary reaction product thereof, and combinations of the mixtures and the preliminary reaction products also form part of Sugio's composition.

The Examiner has suggested that each of Ayano and Sugio provides cyanate esters, maleimides and acrylates, and photoinitiators, but rather than heat curing, photocuring is used in Ayano and is also a possibility in Sugio. In fact, however, Ayano requires photocure and heat cure, as noted above.

Photocuring is not anaerobic curing. In fact, when placed between two substrates, a photocurable composition typically will not cure after exposure to radiation or at most will shadow cure along the edges of the composition, because the radiation does not gain access to the surface of the

composition. However, in an anaerobic environment -- like the present invention -- where an anaerobic cure-inducing composition comprising peroxide and saccharin is used, anaerobic cure will be accomplished at room temperature.

Heat curing is not anaerobic curing, either. In fact, when placed between two substrates, a heat curable composition will not cure when placed in an anaerobic environment, unless heat is also provided to that environment.

Sugio also requires in its first component a polyphenylene ether resin. Somehow this resin has been equated with a (meth)acrylate, which it is not.

Therefore, Sugio cannot anticipate Applicants' amended claims.

Moreover, there is no suggestion in Sugio that its compositions cure anaerobically at room temperature when placed between two surfaces such that an anaerobic environment is created in the area between the two surfaces, at least one of which is metallic.

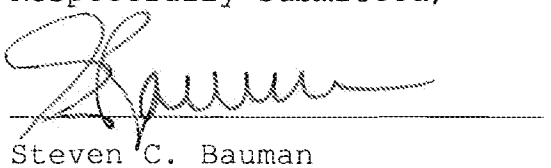
Any such modification of Sugio must have come through the use of hindsight reasoning, using Applicants' claims as a template from which to pick and choose which portions of Sugio seemingly are relevant but require modification. As such, Sugio also fails to suggest Applicants' amended claims.

Applicants submit that Sugio cannot support a rejection of Claims 10 and 23-25 under Section 102 or Section 103.

In view of the above, Applicants respectfully submit that the application is in condition for allowance.

The Examiner is respectfully requested to contact Applicants' undersigned attorney by telephone at (860) 571-5001, by facsimile at (860) 571-5028 or by e-mail at steve.bauman@us.henkel.com, in the event he wishes to discuss the application. All correspondence should be directed to the address given below.

Respectfully submitted,



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